

# Telecom Firm Eliminates Bottlenecks and Guarantees High Availability

---

## Case Study

## Client Info at a Glance

---

**Company:** Business Services Provider

**Location:** United States



### COMMUNICATIONS

**Business Value of TeamQuest:** This telecom service provider, on the recommendation of one of its largest clients, used TeamQuest Performance Software to immediately zero-in on a bottleneck in its Oracle database. As a result of this “trial” basis, TeamQuest software is now being used in many other areas of the enterprise, helping business and IT cope with rapid growth.

---

## Summary

A couple of summers back, this telecom service provider suffered slowdowns on a key service it delivered to customers. On the recommendation of one of its largest clients, it obtained TeamQuest software on a trial basis to investigate a bottleneck on its Oracle database server. Using the software, they were immediately able to zero-in on the cause — a lack of I/O paths to disk. They addressed the constraint, and consistent service delivery was restored. As a result of that successful trial, the company adopted TeamQuest software and now utilizes it in many other areas of the enterprise.

## Buy More Hardware

The basic technology architecture at this leading global communications service provider is a web layer, an application layer and an Oracle database layer. SunFire servers are utilized in a clustered environment, and multiple applications reside on each server. Load balancing and redundancy is employed to optimize performance and minimize downtime. More recently, the company has introduced Dell commodity boxes in a big way, as well as Red Hat Linux OS. VMware is currently in the test and development phase.

In the past, the company primarily relied on the “Buy More Hardware” philosophy as a solution to all problems, and any capacity planning was done manually using spreadsheets.

“We were in ‘react’ mode and had no time for analysis,” said the IT manager. “Capacity growth was based on estimates of new customer volume and a general approach of over-engineering to keep the pager from going off.”

***“Support has been awesome as people are always available to help me gain full value from the software,” said the IT manager. “TeamQuest even made a major visit to our site AFTER we had become a customer. It is clearly a committed vendor.”***

---

Whenever a problem cropped up, he had to go to application experts to find out what might be happening. This, however, led to many different opinions.

When new applications came online, growth rates over the next six or twelve months were largely unknown. By overbuilding, the company paid heavily for unutilized resources (CPU, memory or disk), not to mention all of the other associated costs. Further, many application support teams had been developing performance interfaces without standardization.

What initially led the organization to TeamQuest was an issue with an application in the summer of 2007.

“We observed some capacity issues on an Oracle database server,” said the IT manager. “We had a large number of records to process and the database couldn’t keep up with the demand.”

The company services well-known names in the telecommunications business. One of the largest global players, and a key customer, recommended TeamQuest software to help analyze ongoing performance issues during a customer review which was later described as a humbling experience due to the severity of the outage in an application.

“This telecommunication giant had integrated TeamQuest software into its IT culture,” said the IT manager. “That indicated to me right away that there had to be something there that we could gain value from.”

He immediately obtained a demo copy of TeamQuest Model. But instead of using it in a small-scale test environment, he put it to work to address the problems. He did a proof of concept of TeamQuest on the application and it pinpointed an IO issue. Based on the results of that trial in a real-world situation, the company decided to move forward and buy TeamQuest software.

***“During the Olympics in China... We expected a lot of roaming and it was reassuring to know that our systems were ready for any spikes in demand.”***

---

The organization initially used TeamQuest to model workloads connecting with this application and its Oracle database. As soon as the IO bottleneck was discovered, the solution became obvious. Modeling revealed that increasing the number of paths to disk would alleviate any IO constraints. Accordingly, the company made the necessary disk allocation improvements, RAID upgrades and path additions to help bring about the processing of far more transactions. By providing four paths to the SAN over 4 Gig connections, adding a more powerful Sun server for the database and additional disk-based storage, all slowdowns were eliminated.

While that effectively ended any concerns with that application, IT continued to use TeamQuest to monitor this mission-critical aspect of its service portfolio.

“By staying on top of that application for another ten months, TeamQuest told us that we had a developing CPU capacity issue,” said the IT manager. “That led us in the direction of making a substantial CPU upgrade on our Oracle database server.”

## TeamQuest Used Broadly

Since purchasing and installing TeamQuest, the company has applied it to 60 production servers and uses it across multiple applications. This includes a vital reporting engine used throughout the enterprise. The power of TeamQuest Model is harnessed continually on this application to ensure SLAs are fully maintained and exceeded. TeamQuest is also extensively used on a billing application as well as another key application.

“TeamQuest Model has become an invaluable addition to our toolset,” said the IT manager. “It makes it easy to anticipate bottlenecks and cope with rapid growth by allowing us to determine the necessary improvements to our systems.”

---

The company has since integrated more of TeamQuest's software into its operations. TeamQuest IT Service Reporter is used to display daily and weekly statistics on the web. Application support teams have access to top-notch performance data so they can see at a glance how their applications are faring. This is particularly vital when new code is being added. The support teams can see, for example, the before and after to determine if code is performing as expected.

"We made dramatic code changes to an application, and the support team was anxious to see how successful this would be in reality," said the IT manager. "It was easy for them to log onto TeamQuest IT Service Reporter to see that the changes had reduced CPU and memory utilization by 50 percent."

TeamQuest IT Service Analyzer is another TeamQuest tool in use. It is utilized to provide interactive, real-time reporting of servers, as well as to troubleshoot and create ad hoc reports.

"IT Service Analyzer lets us view how any server is doing at any time," said the IT manager. "We can set alarms based on a variety of parameters and then dig in rapidly to see what's really going on."

TeamQuest Model was utilized within the organization to analyze just how much time ongoing CPU enhancements would provide before further upgrades would have to be unleashed. Model made it a simple matter to take the company's transaction traffic growth rate of 10 percent per month and model that into the future. As a result, IT estimates it has at least two more years left on those systems.

"During the Olympics in China last summer, we had to be very sensitive to user trends," said the IT manager. "We expected a lot of roaming and it was reassuring to know that our systems were ready for any spikes in demand."

***"TeamQuest Model has become an invaluable addition to our toolset," said the IT manager. "It makes it easy to anticipate bottlenecks and cope with rapid growth by allowing us to determine the necessary improvements to our systems."***

---

TeamQuest Model was also used to manage projected growth. The previous year's growth rate was 20 percent per month. For the current year, a monthly rate of 15 to 20 percent is predicted. In addition, a Tier 1 customer is likely to sign up for this service, which will exert a substantial spike in demand. Thus a new modeling scenario had to be run to compensate for this new situation. Results showed that IO could become constrained during the newly projected peaks. However, TeamQuest revealed that this only applied to two servers while the other eight involved with this application could cope with close to 1000% growth in traffic.

Modeling of the application provided detailed information about how long the organization could last without upgrades, should management decide in favor of this path. Based upon no additional customers, it could last a year based on growth expectations using existing hardware. If two customers were added, on the other hand, two more server clusters would have to be deployed. If one new customer was added, solid state drives (SSD) would be needed to maintain transaction response times.

"We were able to confine our hardware upgrades to a couple of servers," said the IT manager. "In the past, we would probably have upgraded everything at a far greater expense."

He points out further financial benefits from modeling. By deferring the purchase of SSDs for at least a year, the company will be able to take advantage of much lower rates for those products as the prices are plummeting steadily.

***"One of the largest global players, and a key customer, recommended TeamQuest software to help analyze ongoing performance issues during a customer operations review which was later described as a humbling experience due to the severity of the outage in an application."***

---

# TeamQuest Support

After two years of service from TeamQuest, how has he found the level of service and support available from the company?

“Support has been awesome as people are always available to help me gain full value from the software,” said the IT manager. “TeamQuest even made a major visit to our site AFTER we had become a customer. It is clearly a committed vendor.”

The results from TeamQuest have spread around the company. Its German and UK data centers have adopted it. Further, the company has now adjusted its acquisition process.

“Corporate finance won’t sign off on a hardware acquisition without a TeamQuest analysis model,” said the IT manager.

***“We were able to confine our hardware upgrades to a couple of servers,” said the IT manager. “In the past, we would probably have upgraded everything at a far greater expense.”***



## WORLDWIDE HEADQUARTERS

### UNITED STATES

TeamQuest Corporation  
One TeamQuest Way  
Clear Lake, Iowa USA 50428

## OTHER LOCATIONS

SWEDEN  
GERMANY  
UNITED KINGDOM  
MEXICO  
HONG KONG

With resellers in many additional countries.

## CONTACT US

[info@teamquest.com](mailto:info@teamquest.com)  
[teamquest.com/about-us/contact-us/](http://teamquest.com/about-us/contact-us/)

TeamQuest, the TeamQuest logo, VITYL and all other TeamQuest trademarks are trademarks owned by TeamQuest Corporation. All other trademarks listed or referenced herein are the property of their respective owners.

NO WARRANTIES OF ANY NATURE ARE EXTENDED BY THE DOCUMENT. The only warranties made, remedies given, and/or liability accepted by TeamQuest, if any, with respect to the products described in this document herein are set forth in a separate such license agreement. TeamQuest cannot accept any financial or other responsibility that may be the result of your use of the information in this document or software material, including direct, indirect, special, or consequential damages. You should ensure that the use of this information and/or software material complies with the laws, rules, and regulations of the jurisdictions with respect to which it is used. The information contained herein is subject to change without notice. Revisions may be issued to advise of such changes and/or additions.

U.S. Government Rights. All documents, product and related material provided to the U.S. Government are provided and delivered subject to the commercial license rights and restrictions described in the governing license agreement. All rights not expressly granted therein are reserved.